Name: Key Summative Date: _____

Geometry Summative Review

Directions: List the formulas for the polygons listed below.

1.) Area of a Rectangle: $A = l \cdot w$

2.) Area of a Triangle: $A = \frac{b \cdot h}{2}$

3.) Area of a Parallelogram: $A = b \cdot h$

4.) Volume of a Rectangular Prism: $V = l \cdot w \cdot h$

5.) Explain how to find the area of a trapezoid: Decompose the trapezoid into a rectangle and triangle(s). Find the area of each and add to find the total area.

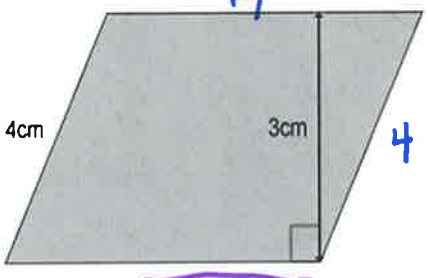
6.) Explain how to find perimeter Add up the measure of all sides. Perimeter is the measure of the distance around a figure.

7.) Explain how to find area of an irregular shape Break the irregular shape into rectangles and/or triangles and add the area of each section.

8.) Explain how to find surface area of a prism/pyramid Find the area of each face, then add up all areas! (Rectangular prism = 6 faces, Triangular prism/pyramid = 5 faces)

Directions: Find the area and perimeter of each figure below. **Be sure to show all work and include correct units of measurement!**

9.)



$b = 7$, $h = 3$, $7 \cdot 3 = 21$

A= $21\ cm^2$

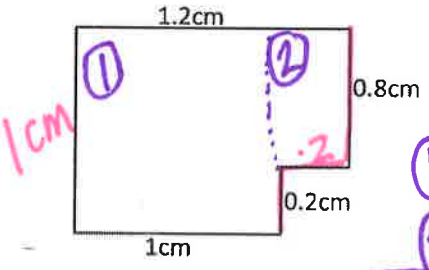
P= $22\ cm$

$4 + 7 + 4 + 7 = 22$

Area = units^2

Perimeter = units

10.)



① $1 \times 1 = 1\ cm^2$

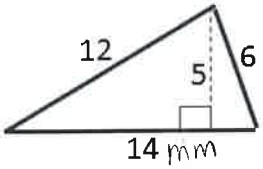
② $.8 \times .2 = .16$

A= $1 + .16 = 1.16\ cm^2$

P= $4.4\ cm$

$1.2 + .8 + .2 + .2 + 1 + 1 = 4.4$

11.)



$b = 14$, $h = 5$

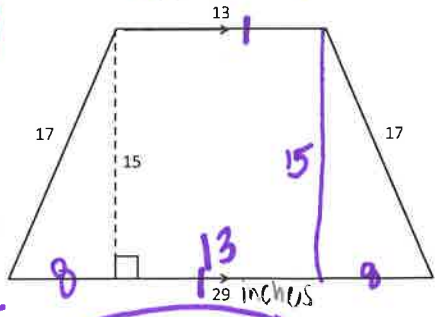
$\frac{14 \cdot 5}{2} = \frac{70}{2}$

A= $35\ mm^2$

P= $32\ mm$

$14 + 6 + 12 = 32$

12.)



$\Delta_1 = \frac{8 \cdot 15}{2} = 60$

$\square \; 13 \cdot 15 = 195$

$\Delta_2 = 60$

$+$

315

A= $315\ in^2$

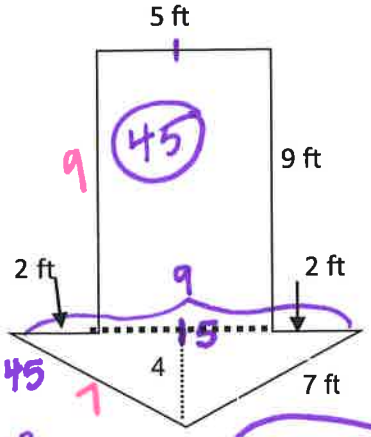
P= $76\ in$

$29 + 17 + 13 + 17 = 76$

$29 - 13 = 16$

$16 \div 2 = 8$ for base of each triangle

13.)



45

$\square = 5 \cdot 9 = 45$

base = 9
height = 4

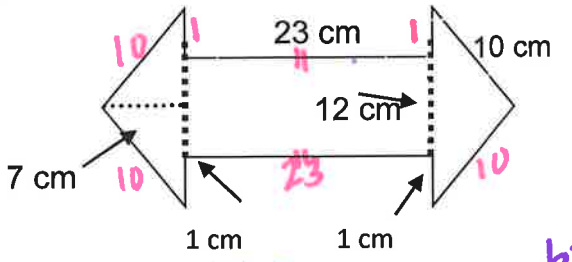
$\triangle = \frac{9 \cdot 4}{2} = 18$

A= 45+18= 63 ft²

P= 41 ft.

5+9+2+7+7+2+9 = 41

14.)



b = 14
h = 7

$\triangle = \frac{14 \cdot 7}{2} = 49$

$\square = 23 \cdot 12 = 276$

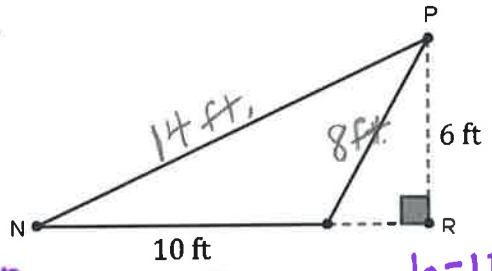
$\triangle = 49$

A= 49+276+49= 374 cm²

P= 90 cm

23+1+10+10+1+23+1+10+10+1 = 90

15.



$\frac{10 \cdot 6}{2} = \frac{60}{2}$

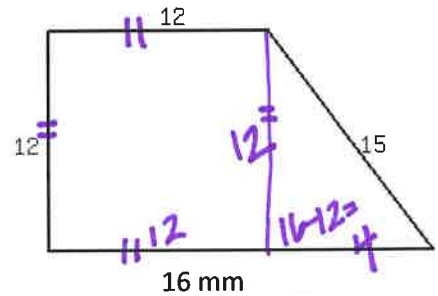
b = 10
h = 6

A= 30 ft²

P= 32 ft.

10+14+8=

16.)



$\square$ 12·12 = 144

$\triangle$ $\frac{4 \cdot 12}{2} = 24$

144+24 = 168

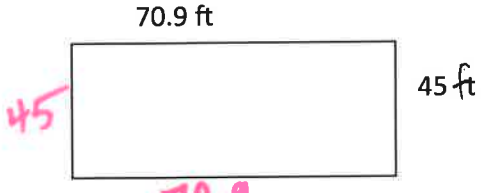
A= 168 mm²

P= 55 mm

12+15+16+12 = 55

17.) Mrs. Smith is giving her horse pasture a makeover. The pasture measures 45 feet by 70.9 feet.

a.) She plans to replant the grass for the entire pasture. How large of a space will she need to cover with grass seed?



* area sq. units

A = l · w

70.9 × 45

3545 + 28360 = 3190.5

3190.5 ft²

will need grass

b.) She plans to put fencing up to enclose the pasture. How much fencing will she need?

* perimeter

70.9+45+70.9+45 = 231.8

231.8 ft of fencing

units * not sq.

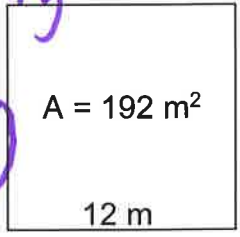
18.) Mrs. Mayer built a dog pen for Mac that has a total area of 192 square meters. Its width is 12 meters. What is the length of the dog pen?

A = l · w

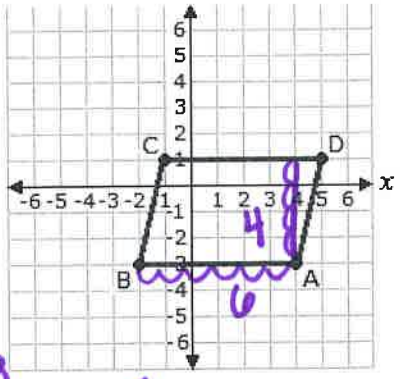
$\frac{192}{12} = \frac{l \cdot 12}{12}$

16
12 | 192
-12
72
-72
0

l = 16 meters



19.) Determine the area of the parallelogram on the graph.



b=6
h=4

$6 \cdot 4 =$ 24 units²

20.) Rectangle ABCD has vertices A(2, 3) B(-4, 3) C(-4, -5).

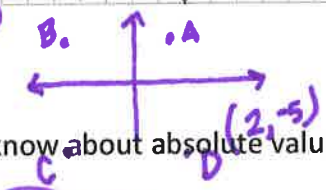
$|3|+|-5|=8$ $|2|+|-4|=6$

AB 6
BC = 8

What is the coordinates of vertex D? (2, -5)

What is the area of the rectangle? 48 units²

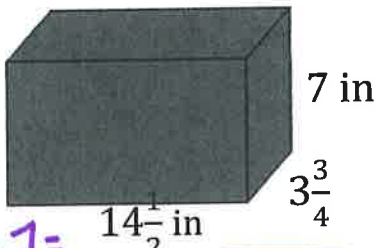
**Sketch an image on the coordinate grid above, or use what you know about absolute value to help solve!



Directions: Find the **volume** of the rectangular prisms below.

$V = l \cdot w \cdot h$

21.)



$14\frac{1}{2} \cdot 3\frac{3}{4} \cdot 7 =$
(14.5 -OR- 3.75 · 7)

V= 380.625 in³

22.)

$6 \cdot 8 \cdot 12 =$

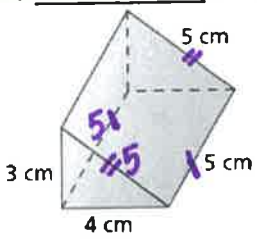
V= 576 in³

23.) What is the difference in volume of the two rectangular prisms above?

subtract

576
-380.625
195.375 in³

Directions: Find the **surface area** of the figures below.



24.)

Triangle 1: $\frac{4.3}{2} = 6$

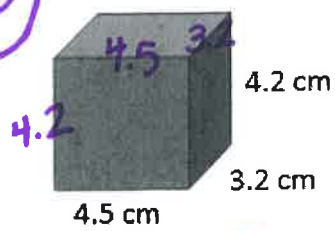
Triangle 2: 6

Rectangle 1: $4.5 = 20$ (BASE)

Rectangle 2: $5.5 = 25$ (5.5)

Rectangle 3: $3.5 = 15$ (3.5)

Surface Area= 72 cm²



25.)

Front: $4.2 \times 4.5 = 18.9$

Back: 18.9

Top: $3.2 \times 4.5 = 14.4$

Bottom: 14.4

Left: $4.2 \times 3.2 = 13.44$

Right: 13.44

Surface Area= 93.48 cm²

26.) Square Base: $5 \cdot 5 = 25$

Triangle 1: $\frac{5 \times 6.5}{2} = 16.25$

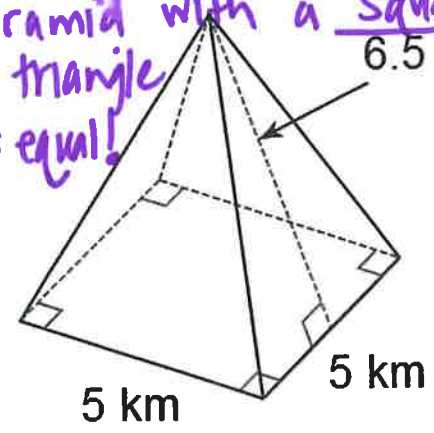
Triangle 2: 16.25

Triangle 3: 16.25

Triangle 4: 16.25

Surface Area= 90 km^2

* Pyramid with a square base has all 4 triangle sides equal!



⚠ base = 5
height = 6.5

27.)

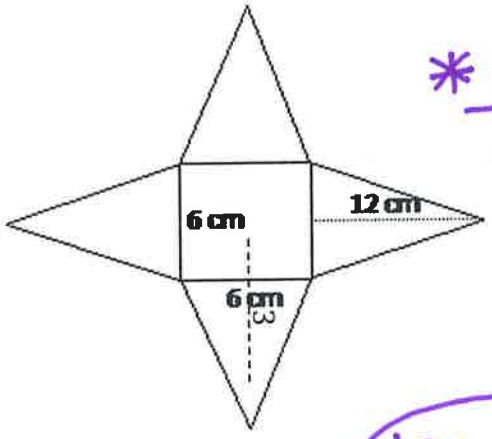
Square Base: $6 \cdot 6 = 36$

Triangle 1: $\frac{6 \cdot 12}{2} = \frac{72}{2} = 36$

Triangle 2: 36

Triangle 3: 36

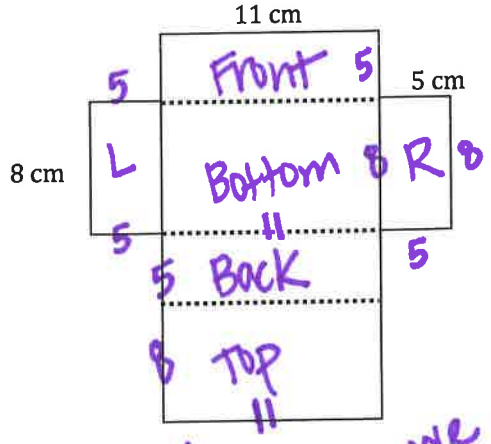
Triangle 4: 36



* Square base, so all triangle sides will be equal.

Surface Area= 180 cm^2

28.)



Front: $11 \cdot 5 = 55$

Back: $11 \cdot 5 = 55$

Top: $8 \cdot 11 = 88$

Bottom: $8 \cdot 11 = 88$

Left: $5 \cdot 8 = 40$

Right: $5 \cdot 8 = 40$

Surface Area= 366 cm^2

* It doesn't matter which face we choose to call "front, back". We will still get the same total surface area!